FINAL NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD MEETING SUMMARY

Building 1, Suite 140, Community Conference Room
Alameda Point
Alameda, California

Tuesday, August 7, 2001

ATTENDEES

See attached list.

MEETING SUMMARY

I. Approval of Minutes

Steve Edde, U.S. Department of the Navy (Navy), called the meeting to order at 6:38 p.m. Mr. Edde announced that Mike McClelland (Co-chair) and Andrew Dick (Navy) are absent due to family emergencies. Lyn Stirewalt stated that Michael John Torrey, Community Chairperson, might be absent due to a family emergency also. (Mr. Torrey arrived later in the meeting.)

The July 10, 2001, Restoration Advisory Board (RAB) Meeting Minutes were not approved due to an omission of pages 3 through 5 from the mid-monthly mailing. Pages 1 through 5 of the meeting summary will be included in the August mid-monthly mailing.

II. Co-Chair Announcements

Mr. Edde announced that Dina Tasini, City of Alameda (City), has accepted a job with the City of Martinez. Her last day will be August 24, 2001.

Clem Burnap has an excused absence from this RAB meeting

III. Site 25 Treatability Testing

Rick Weissenborn introduced Bruce Marvin, IT Corporation (IT), who is the technical lead for the chemical oxidation treatability testing planned for Site 25. Mr. Marvin presented Site 25 background information, laboratory test results, pilot study goals, and a schedule.

Shallow soils within Site 25 are impacted by polycyclic aromatic hydrocarbons (PAH), expressed as benzo(a)pyrene equivalents, which are distributed heterogeneously. Residential risk from the PAHs is driving remediation of soil from 0 to 2 feet and 2 to 4 feet. The leading remedial alternative, as opposed to excavation, transport off site, and disposal, is chemical oxidation.

The Navy will be conducting a pilot study at Site 25 to determine if PAHs in soil can be remediated through chemical oxidation, with permanganate as the oxidizing agent. There are three potential oxidizing agents, hydrogen peroxide, ozone, and permanganate (MnO_4^-). Chemical oxidation with hydrogen peroxide was not recommended for use as the oxidizing agent in the pilot study, because it reacts quickly, which requires more doses for remediation, and there

is potential for fugitive gas emission. Ozone also was not recommended; it is an ingredient of smog and is generally not used near residential areas due to potential health risks. Permanganate was recommended as the oxidizing agent and will be tested in the pilot study at Site 25. Permanganate is a purple-colored, moderately strong oxidizing agent, which is commonly used in treatment of drinking water to remove iron and manganese. Laboratory permanganate test results show that contaminants, such as naphthalene and phenanthrene are removed after 168 hours.

The goals for the pilot study are (1) to evaluate spatial variability of the demand for the oxidant and concentrations of benzo(a)pyrene equivalents, (2) assess the level of benzo(a)pyrene equivalent treatment under conditions that mimic full-scale conditions or confirm laboratory results, and (3) determine the most appropriate oxidant delivery technique. The study will consist of the following three test cells: surface tilling, surface irrigation, and shallow subsurface injection.

The work plan for the pilot study is expected to be distributed to the agencies by August 9, 2001. Currently, the area where the test cells will be located is being prepared. On August 20, 2001, delivery of the permanganate to the soils will begin, and monitoring will occur monthly for a 6-month duration. Submittal of the final report is scheduled for February 2002.

Nick DeBenedittis asked if this process has been used elsewhere and whether it is cost effective. Mr. Marvin responded that chemical oxidation of chlorinated solvents has been conducted in the field numerous times and found to be quite effective. This pilot study is proposed to field test chemical oxidation of PAHs, which could be less costly compared to other remedial alternatives.

James Leach questioned the risk and cost associated with using ozone as the oxidizing agent. Mr. Marvin responded that ozone can be quite expensive to generate, and the power bill could be $2,500 per month or larger over time. In addition, he believes that the health risk is significant enough to exclude its use in a residential area.

Ms. Stirewalt asked if the soil within the test site locations is known to be contaminated; if this remedial technology, if found effective, will be used at other locations; is there a remedy if too much permanganate is used; and which test cell is expected to succeed. Mr. Marvin responded that contaminant concentrations would be confirmed within the test site locations the week of August 13, 2001. It is premature to determine which remedial technology will be used at Site 25, but if the technology is successful, it would most likely be used in combination with other technologies. There are several remedies if too much permanganate is used, molasses being one of them. Surface tilling is expected to be the most successful test cell, followed by shallow subsurface injection.

Ardella Dailey asked if a flyer regarding the pilot study had been sent out and if it had been distributed to the school district and the local daycare facility. Mr. Weissenborn and Mr. Edde responded that a flyer had been sent two weeks ago, but the school district and local daycare facility did not receive it. Mr. Weissenborn will provide them with a flyer.
Mary Sutter asked which type of chromium would be formed by the addition of permanganate to the soils. Mr. Marvin responded that hexavalent chromium (Cr^{+6}), which is mobile and an environmental concern, could be formed from the naturally occurring trivalent chromium. However, once the system reaches equilibrium, hexavalent chromium is expected to convert back to trivalent chromium. The persistence of hexavalent chromium in the soil is dependent on the persistence of the permanganate. Based on laboratory results and subsequent extrapolations, neither hexavalent chromium nor permanganate is expected to persist beyond 30 to 60 days. A

chain link fence, with wood slats, will restrict access to the test sites and hazard signs will be posted.

IV. Site 26 Work Plan

Glenna Clark introduced Janet Argyres, with Bechtel Environmental Inc. (Bechtel). Ms. Argyres gave a presentation on the Site 26, Western Hangar Zone, Remedial Investigation (RI) Work Plan (see handout). The presentation began with an introduction to Bechtel and included an overview of Site 26, the RI work plan, and a schedule of activities.

Site 26 consists of 11 parcels in Zone 6 and is approximately 37 acres of paved areas, roads, and structures. The site was previously used for aircraft parking, wash down, fueling, and maintenance. Buildings on the site are currently occupied by various businesses.

The environmental baseline survey (EBS), which was completed in January 2001, included a residential risk screening. The screening identified chemicals of potential concern (COPC) in the Western Hangar Zone; therefore this area was designated as Installation Restoration Site 26. Volatile organic carbons (VOC), semivolatile organic carbons, PAH, total petroleum hydrocarbons (TPH), and metals were identified in the EBS as COPCs in soil and groundwater. PAHs in soil may be considered elevated because of high detection limits, due to matrix interference, or PAH concentrations may be equivalent to background concentrations.

Jo-Lynne Lee asked what matrix interference is and why background is being determined for PAHs. Ms. Argyres responded that high organics in a soil can interfere with the laboratory instrument's ability to analyze the soil. In this situation, the laboratory dilutes the sample, which raises the detection limit. An alternate analytical method (U.S. Environmental Protection Agency [EPA] SIMS 8270C) will be used to analyze PAHs in soil, and it is hoped that there will be less interference. Mr. Weissenborn and Anna-Marie Cook responded that the Navy is required by their management in Washington D.C. to determine background for all COPCs. The Navy will be collecting additional soil samples basewide to determine background for PAHs and a cleanup goal. EPA will make a risk based decision for PAH remediation, and there could be a discrepancy between the two approaches.

Ms. Sutter stated that the majority of the site is paved and asked if samples will be collected through the asphalt. Ms. Argyres responded yes.

Groundwater at Site 26 is considered Class II with a low potential for use as drinking water; however, the EBS included ingestion of groundwater in the residential risk screening. There may not be a human health risk from groundwater if ingestion is no longer considered a pathway. Ecological risk, from groundwater in contact with storm drains, still needs to be evaluated. A Hydropunch® investigation will be used to delineate the VOC plume, then shallow and deep monitoring wells will be installed to monitor COPCs. Shallow wells will be 10 to 15 feet deep and will monitor the first water bearing zone. Deep wells will monitor the second water-bearing zone.

Ms. Cook stated that placement of monitoring wells at Site 26 should not be based on VOCs alone and recommended considering the wash rack as a location for a monitoring well.

A soil gas investigation will be conducted in the same area as the hydropunch investigation, and 12 samples will be collected in two areas. The data will be used to identify potential VOC source areas and help characterize risk due to inhalation of VOCs.

A schedule of future Site 26 activities, through the feasibility study (FS), was presented. The submittal dates presented are also the same dates included in the site management plan, which is attached to the Federal Facilities Agreement (FFA). Site 26 activities have been funded through the FS, which is scheduled for submittal on January 15, 2004.

Ms. Sutter asked how often and what season the monitoring wells at Site 26 would be sampled. Ms. Argyres responded that a full year of data will not be collected in time for submittal of the draft RI report. Ms. Cook added that the Navy is planning a groundwater-monitoring program, and it is possible that these wells may be included in that program.

V. *Co-Chair Announcements*

Mr. Torrey continued Co-chair announcements and announced that he has received a copy of the FFA signed by EPA and the Navy. Ms. Cook added that the state (Department of Toxic Substances Control [DTSC] and Regional Water Quality Control Board [RWQCB]) will not sign the FFA because of Navy and DTSC differences regarding removal action approval authority. A sign-up sheet was distributed for RAB members to request a copy of the FFA. The site management plan (schedules), which is Attachment A of the FFA, was distributed in the July 2001 mid-month mailing.

Various correspondence and documents were distributed to the RAB. These documents are sent directly to the RAB Co-chair and are in addition to the copies in the RAB library. If documents remain after the meeting, Mr. Torrey leaves the extra copies in the RAB library.

VI. Project Teams

Membership

There are two potential new RAB members, Steven Lee and Ingrid Baur. Ms. Baur is a retired electrical engineer, and the membership committee would endorse her. Tony Dover made a motion to accept Ms. Baur as a member, and Nick DeBenedittis seconded the motion. The motion was approved with no objections.

Mr. Lee had called Mr. Torrey about membership on the RAB, but he did not attend the membership or RAB meeting. Ms. Stirewalt will call Mr. Lee to determine if he is still interested in membership.

Diane Behm has an excused absence from this RAB meeting.

VII. Base Realignment and Closure Cleanup Team (BCT) Activities

Ms. Cook provided an update on BCT activities that have occurred since the July 10, 2001, RAB meeting. One meeting and two conference calls were held.

- A BCT conference call was held on July 12, 2001, to discuss the public notice for the FFA and preliminary soil sampling results and removal actions for Site 25. The public comment period for the FFA is from July 27 to September 10, 2001. Questions and comments regarding the FFA can be directed to David Cooper and Ms. Cook, both with EPA. A copy of the FFA is in the RAB library, the West End Branch of Alameda library, the Main Branch of Alameda library, and in the Superfund records of EPA in San Francisco. The site management plan (SMP) was finalized on August 6, 2001, and dates for this fiscal year (FY 2001) through September 30, 2002, (FY 2002) are enforceable. Dates for FY 2003 will be renegotiated in June 2002.

- A BCT Monthly Tracking Meeting was held July 17, 2001. Sampling of soil at the East and West Coast Guard Housing for chlordane and last minute changes to the SMP were discussed, and Tetra Tech provided a data gap sampling update. A new technology, ribbon sampling, was used to try and locate dense non-aqueous phase liquid (DNAPL). DNAPL was not identified; however, it can be hard to track. A small-chlorinated solvent plume was located between Sites 14 and 1. Low levels of vinyl chloride were detected that could be from degradation of trichloroethylene (TCE).

- A BCT conference call was held on July 26, 2001, and a six-phase heating pilot study at Site 25 was discussed.

VIII. Community and RAB Comment Period

The need for a public meeting to discuss the FFA was discussed, and the RAB agreed to meet after this RAB meeting was adjourned to schedule a meeting to discuss the FFA.

The RAB agreed to conduct the next RAB meeting, as previously scheduled, on September 4, 2001. This will allow the RAB to formally comment on the FFA during the public comment period.

James Leach asked for an excused absence from the September 4, 2001, RAB meeting, and it was approved.

Patrick Lynch questioned why the Navy would spend $75,000 for sampling and remediation of soil potentially contaminated with lead based paint from the water towers when the source of the lead based paint (water towers) still remains at the site. He considers the structures in bad structural condition and questioned why they were not removed prior to sampling and remediation of the area. Ms. Clark responded that soil sampling was conducted the week of July 30, 2001, and the two remaining water towers and one radio tower were also sampled for lead based paint. The towers may have been previously sandblasted and repainted with non-lead based paint; therefore, they may no longer be a source. A report of the results should be completed by mid-September 2001. The study will probably cost more than the initial $75,000, and the removal has not been funded.

Mr. Torrey asked why lead based paint was used on tanks containing water for human consumption. Mr. Edde responded that the paint was applied to the outside of the tank and did not have contact with the water.

Mr. DeBenedittis asked when the Navy obtained the money to fund the work at the water towers. Ms. Clark responded that the project was funded a while ago, and money was probably obtained from funds remaining after scoped work was completed. Mr. Edde added that the Navy is still spending money that was funded in previous fiscal years.

Ms. Sutter announced that she received an e-mail from Bill Smith regarding comments made by a Professor Lewis, from Louisiana State University, during a Sediments Forum. According to Professor Lewis, there are three technologies currently known for treating contaminated sediment, which are monitored natural recovery, capping, and dredging. Other technologies are not likely to be applicable for another 15 to 20 years, and no technologies are low cost and 100 percent effective without long term monitoring.

Ms. Dailey asked if the Navy had a timeline for remedial work at the water towers, since it has not been funded yet. Ms. Clark responded that an engineering evaluation/cost analysis (EE/CA) must be prepared before the removal action can be conducted. Ms. Cook added that lead based paint sampling at the water towers has been discussed by the BCT for several years, and a sampling plan was submitted to the agencies 18 months ago. The Navy also has submitted a revised sampling plan, which addressed agency comments. The sampling plan should be in the RAB library. Because the site has not been a priority in the past, EPA will not consider a time critical removal action for the site, so an EE/CA will need to be prepared. Three water and two radio tower sites are being investigated. One water tower and one radio tower have been removed; therefore only two water towers and one radio tower remain.

Ms. Stirewalt stated that the Navy and the RAB agreed several years ago that the RAB would be involved in Resource Conservation and Recovery Act (RCRA) investigations, in addition to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations.

The RAB agreed that they would like a presentation on the water tower investigation at a future RAB meeting.

Michael Stone GPI stated that the index for the RAB library was updated a week ago (the week of July 30, 2001). Documents are indexed by number, date, and type, and the easiest way to find a document is by date.

George Humphreys stated that the average person does not know the date or the title of a document and asked if documents could be indexed by site. Ms. Lee responded that maybe the database that the Navy is preparing, which was mentioned during the RAB workshop she attended, could be used to help determine which documents are relevant to a site. Mr. Edde stated that he would look into the possibility of an electronic index for the library.

Mr. Edde distributed an 11x17 figure of Installation Restoration sites and operable units.

The meeting was adjourned at 8:30 p.m.

ATTACHMENT A

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
August 7, 2001

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

7 AUGUST, 2001 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140

COMMUNITY CONFERENCE ROOM

(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)

TIME	SUBJECT	PRESENTER
6:30 - 6:35	Approval of Minutes	Michael John Torrey
6:35 - 6:45	Co-Chair Announcements	Co-Chairs
6:45 - 7:05	Site 25 Treatability Testing	IT Corp.
7:05 - 7:45	Site 26 Workplan	Bechtel
7:45 - 8:10	Project Teams, Round the Table	Team Leaders
8:10 - 8:20	BCT Activities	Anna-Marie Cook
8:20 - 8:30	Community & RAB Comment Period	Community & RAB
	RAB Meeting Adjournment	
8:30 - 9:00	Informal Discussions with the BCT	

ATTACHMENT B

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING SIGN-IN SHEETS

(Four Pages)

ALAMEDA POINT
RESTORATION ADVISORY BOARD
Monthly Attendance Roster for 2001

Date: August 7, 2001

Please initial by your name

COMMUNITY MEMBERS	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Ingrid Baur								X				
Dianne Behm		X	*	X	X		X	*				
Robert E. Berges (Resigned in Feb.)	X	X										
Clem Burnap	*	*	X**	X	X	X	X	*				
Ardella Dailey	X			X	X	X		X				
Nick DeBenedittis			X		X	X		X				
Douglas deHaan	X		X		X	X						
Tony Dover	X	X				X		X				
George Humphreys						X	X	X				
James D. Leach	X	*		X	*		X	X				
Jo-Lynne Lee	X	*	X	X		X	X	X				
Bill Mitchell (Resigned in April)	X	X	X									
Bert Morgan	X	X	X	X	X	X	X					
Ken O' Donoghue	X		X									
Kurt Peterson												
Kevin Reilly		X										
John Roullier		X	X				*					
Lyn Stirewalt				X		X		X				
Mary Sutter	X	X	X	X	X	X	X	X				
Luann Tetirick					X	X						
Michael John Torrey	X	X	X	*	X	X	X	X				
COMMUNITY MEMBERS	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**

Revised 04/02/01
Alameda/Meetings/Rab/SIGNINSHEET.xls

* Denotes excused absense

Dana Kokubaun			X									
Golden Gate Audubon Society			X									
Betsy P. Elgar			X									
REGULATORY AND OTHER AGENCIES	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Mary Rose Cassa (resigned in June)	X	X	X	X	X							
Anna-Marie Cook	X		X	X	X	X	X	X				
David Cooper						X	X	X				
Brad Job	X	X	X	X	X	X	X					
Elizabeth Johnson		X	X	X		X	X	X				
Phillip Ramsey (reassigned in Feb.)		X										
Patricia Ryan		X		X								
U.S. NAVY	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Glenna Clark		X						X				
Andrew Dick					X							

Steve Edde	X	X		X	X	X	X	X				
Greg Lorton		X				X**						
Mike McClelland	X		*	X	X	X						
Tom Pinard		X	X		X	X	X	X				
Rick Weissenborn			X		X		X	X				
TETRA TECH EMI	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Corinne Crawley				X								
Alan Driscoll		X										
Jim Jacobson		X										
Marie Rainwater												
Leah Waller		X	X		X	X	X	X				
GPI	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Michael Stone	X	X	X	X		X		X				
Jack Clemes	X											
OTHER	**JAN**	**FEB**	**MARCH**	**APRIL**	**MAY**	**JUNE**	**JULY**	**AUG**	**SEPT**	**OCT**	**NOV**	**DEC**
Charlene Washington-EBCRC				X								
Janet Argyres-Bechtel								X				
Bart Draper-Bechtel								X				
Stephen Quayle-Bechtel								X				

* Excused absence
** Attended but did not sign roster

ATTACHMENT C

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS

IT Corporation. 2001. "Site 25 Treatability Testing." Presented by Bruce K. Marvin. August 7.

Bechtel Environmental Inc. 2001. "Site 26 Work Plan." Presented by Janet Argyres. August 7.

SITE 25 TREATABILITY TESTING

(Four Sheets)

Alameda IR Site 25 Treatability Study of Chemical Oxidation of Benzo(a)pyrene Equivalents

Bruce K. Marvin (The IT Corporation, Concord CA, USA)
Dan Baden (The IT Corporation, Concord CA, USA)
Amy Estey (The IT Corporation, Concord, CA, USA)

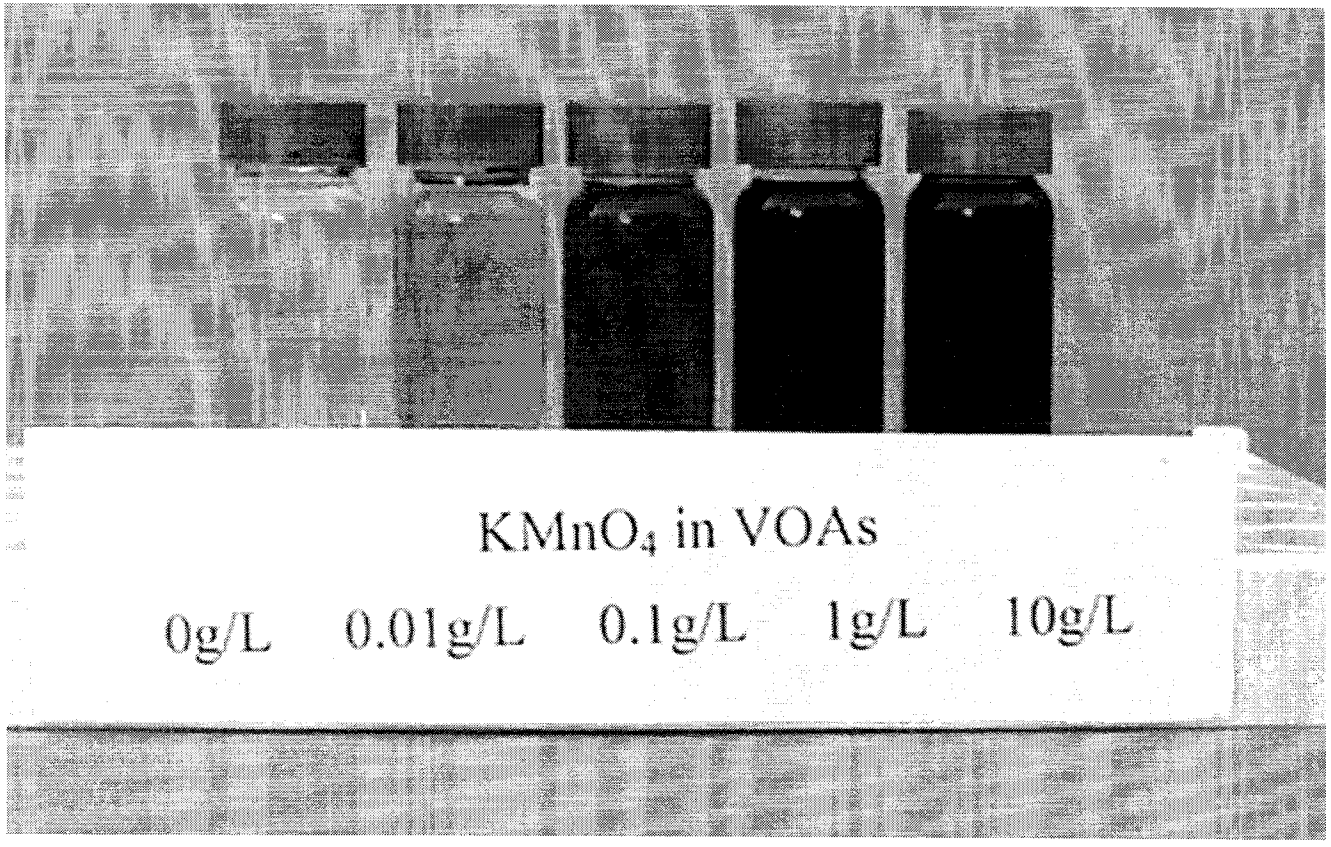
Site 25 - Estuary Park Background

- Shallow soils are impacted with PAHs expressed as B(a)P equivalents
  - Hydrodredged sediments
  - Potential manufactured gas plant residuals
  - Heterogeneous distribution
- Residential risk drives the remediation
  - 0 to 2 feet
  - 2 to 4 feet
- Leading alternative
  - Excavation

What is Permanganate? And Why.....

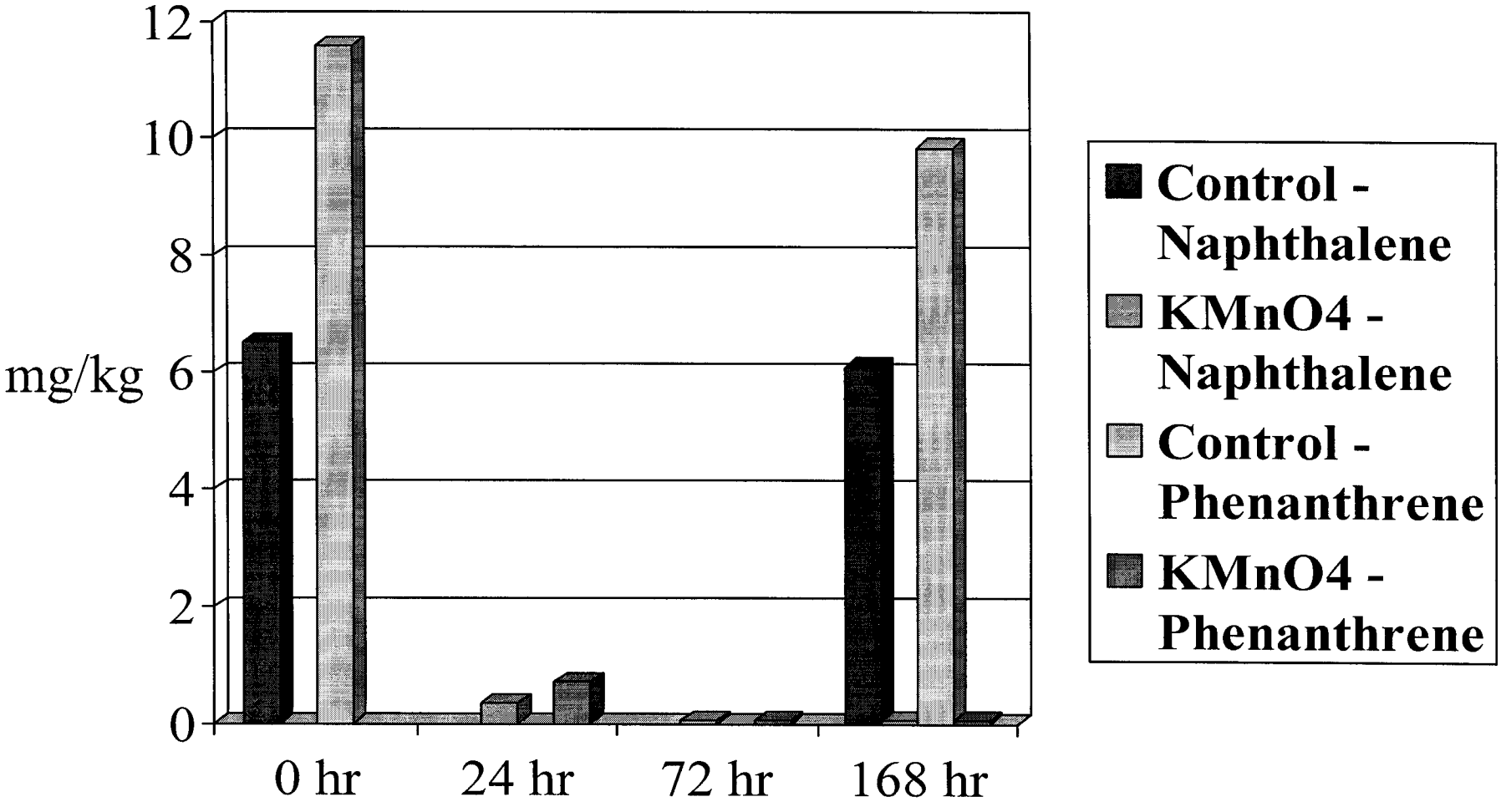
- Permanganate (MnO_4^-) is a moderately strong oxidizing agent
  - Commonly used in drinking water treatment to remove iron and manganese
- Destroys contaminants
- A stronger oxidant is not required
- Safety concerns - hydrogen peroxide and ozone
  - Fugitive gas emission potential
  - Faster reaction rates require many dosages

$KMnO_4$ is Intensely Colored



Laboratory Results

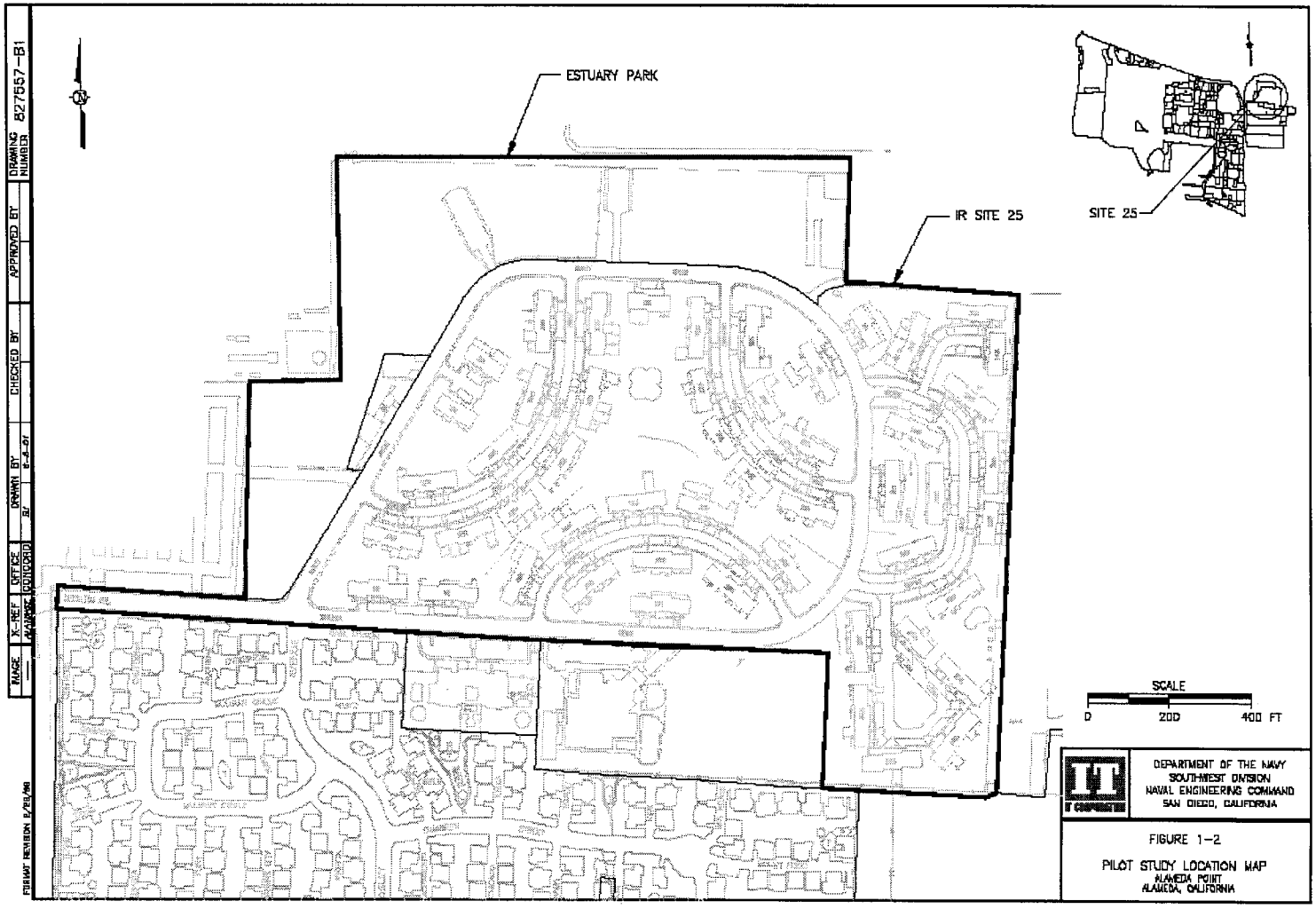
14.6 g $KMnO_4$ per Kg soil



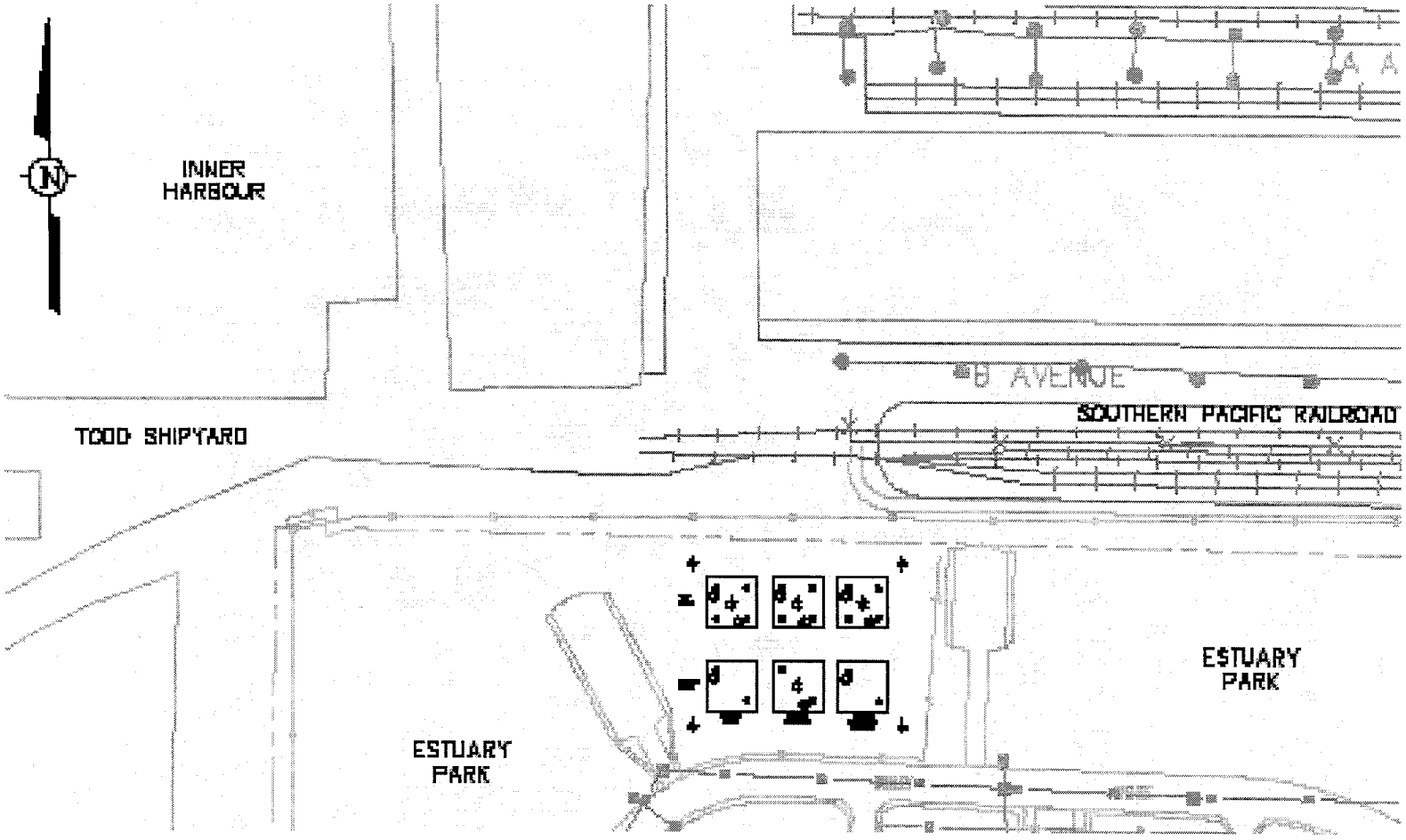
Treatability Study Goals

- Assess the level of $B(a)P_{equiv.}$ treatment under conditions that mimic full-scale conditions
- Determine the most appropriate oxidant delivery technique
- Evaluate spatial variability of the oxidant demand and $B(a)P_{equiv.}$

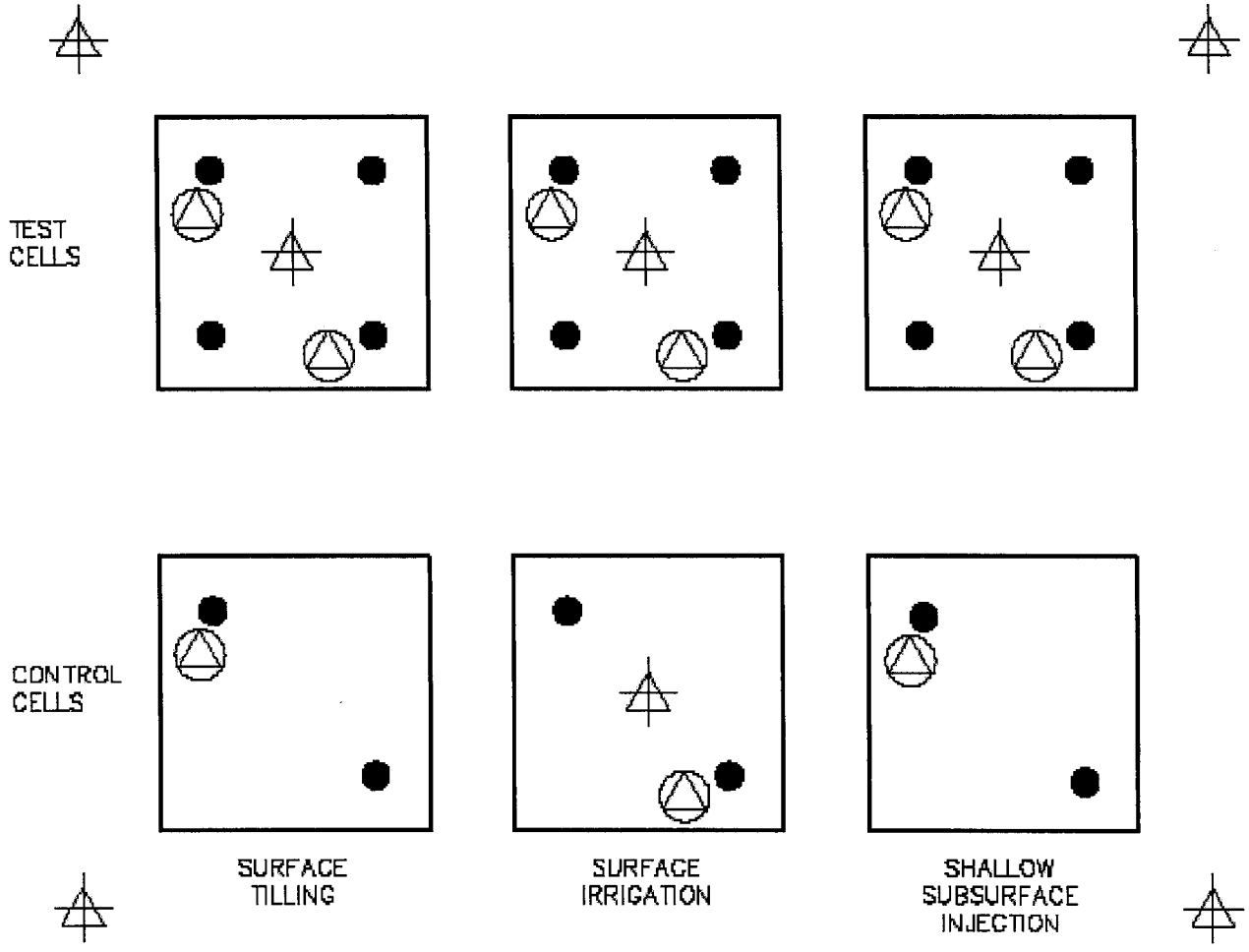
Site 25 - Estuary Park



Treatability Study Location



Sampling and Monitoring Program



Treatability Study Schedule

Work Plan Final			8-Aug-01
Preconstruction/Site Preparation	10 day	1-Aug-01	13-Aug-01
Baseline Sampling	5 day	13-aug-01	17-Aug-01
Begin Delivery of $KMnO_4$ to Test Cell	15 day	20-Aug-01	7-Sep-01
Decision to Proceed	7 day	27-Sep-01	5-Oct-01
Performance Monitoring – 6 months	183 day	27-Aug-01	8-Feb-01
Final Report Preparation	25 day	11-Feb-02	15-Mar-02
Rev A Report to Navy	1 day	18-Mar-02	18-Mar-02
Navy Comment Period	7 day	19-Mar-02	27-Mar-02
Comments from Navy	1 day	28-Mar-02	28-Mar-02
Incorporate comments	3 day	28-Mar-02	1-Apr-02
Final Report to BCT			1-Apr-02

Frequently Asked Questions

- **Manganese residual after treatment**
  - **approximately 2,000 mg $KMnO_4$/Kg soil**
  - **results in 700 mg Mn/Kg soil plus background**
- **Chromium issues**
  - **mobilization and attenuation will be tracked**
- **Microbial effects**
  - **evidence that $KMnO_4$ has little to positive effect**
- **Post-treatment soil viability**
  - **Mn inhibition of plant growth is unknown**
  - **Literature review topic moving forward**

SITE 26 WORK PLAN

(14 Sheets)

Nature of Contamination

- Environmental Baseline Survey (EBS) completed in January 2001.
- Screening criteria (from EBS data)
  - Human health based risk
    - Cancer risk: $> 1x10^{-6}$
    - Non-cancer risk: > 1
- Chemicals Of Potential Concern (COPCs)
  - Organic : VOCs, SVOCs, PAH, TPHs
  - Inorganic: metals

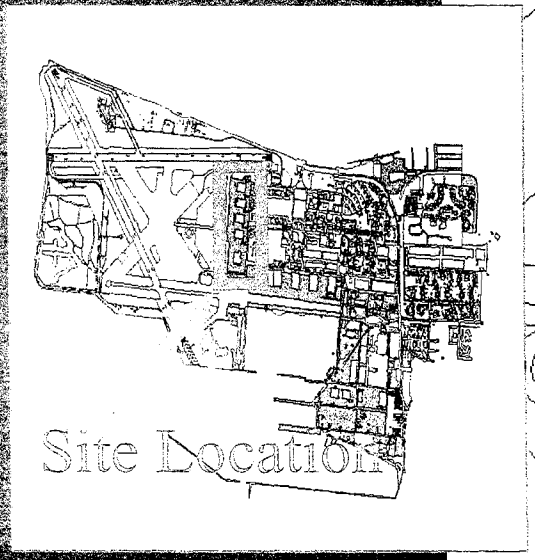
ALAMEDA POINT

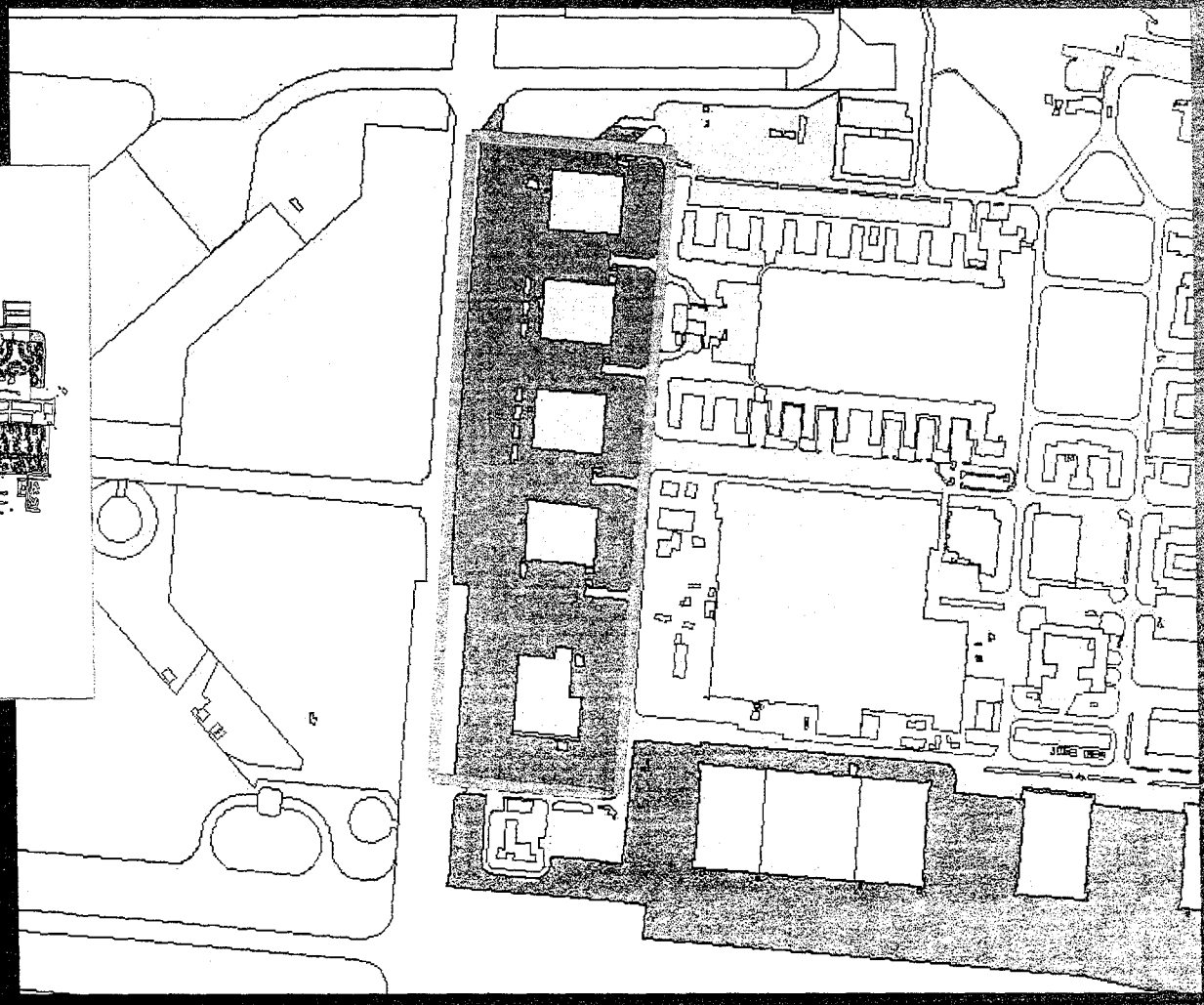
Site 26 Background

- Site 26 consists of 11 parcels of Zone 6
  - before 1930, entirely inundated by the SF Bay
  - filling activities began in 1930 and lasted until 1941
  - ~ 37 acres; contains paved areas, roads, and structures
- Previously used for aircraft parking, wash down, fueling, and maintenance
- Buildings currently occupied by various businesses

ALAMEDA POINT

IR Site 26





Outline

- Overview of Site 26, Western Hangar Zone
- Remedial Investigation (RI) Work Plan
- Schedule of Activities

Introduction to Bechtel

- Awarded CLEAN II contract in1992 and CLEAN 3 in 1995
  - primarily working on numerous active and BRAC facilities in Southern California
- New project team located in San Francisco
  - working at Alameda Point, Pt. Molate, and Naval and Marine Corps Reserve Center
- Philosophy
  - team approach (meetings/story board presentations)
  - ↓ document volume
  - no surprises

ALAMEDA POINT

Site 26 - Western Hangar Zone RI Work Plan

August 7, 2001

By

Bechtel Environmental Inc.

ALAMEDA POINT

COPCs

Soil

- Organic: 3 PAHs
  - Benzo(a)anthrancene
  - Benzo(a)pyrene
  - Benzo(b)fluoranthene
- Inorganic: None

Groundwater

- Organic: 9 VOCs +1 PAH
  - Benzene, Chloroform, Cumene, Toluene, 1,1-dichloroethene, 1,2-dichloroethane, Trichloroethene, Vinyl Chloride, 1,2,4-trimethylbenzene
  - Naphthalene
- Inorganic: Arsenic

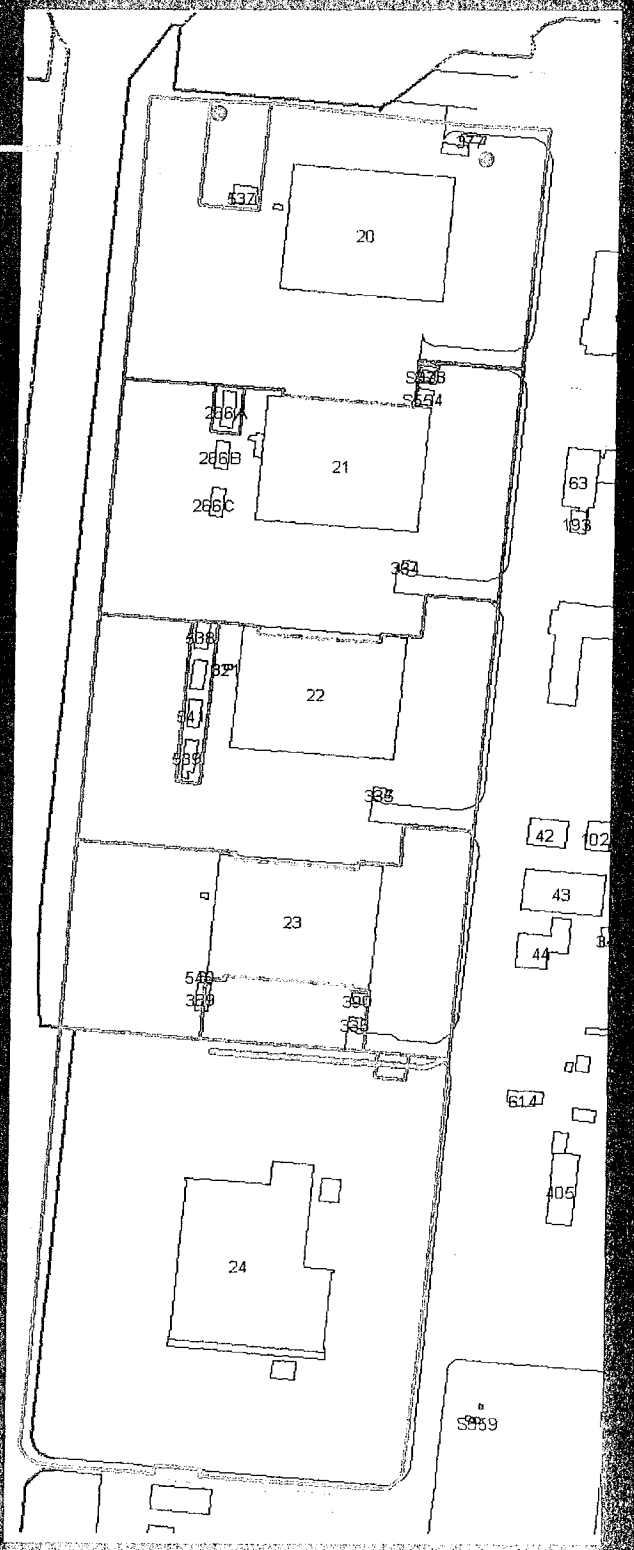
ALAMEDA POINT

Soil Characterization

- Elevated PAHs in Soil
  - Due to elevated detection limits?
  - High background concentrations?
- Better analytical method for PAH analysis
  - EPA SIMS 8270C (Selective Ion Mass Spec)
  - Improved sample preparation
- Proposed 17 soil boring locations

EBS Soil Data (exceeding PRGs)

Elevated PAHs *



* EBS data exceeding PRGs

ALAMEDA POINT

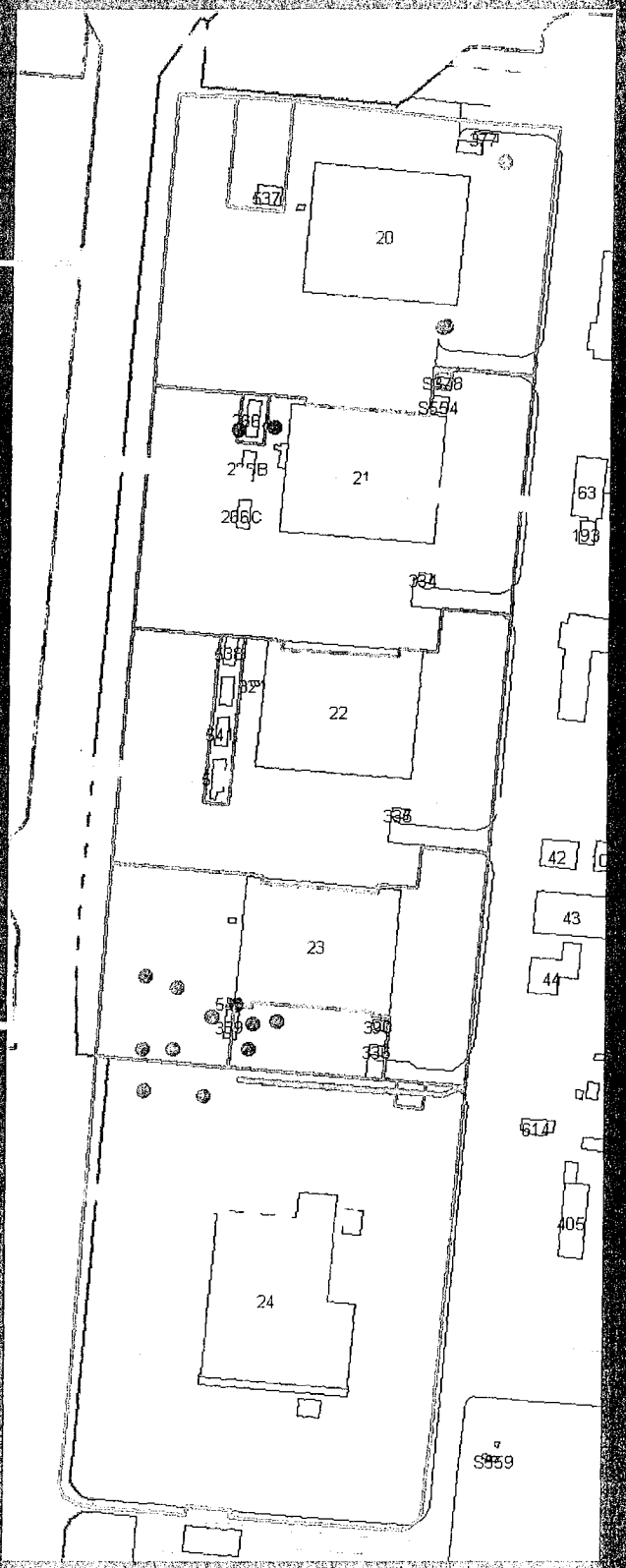
Groundwater Characterization

- Groundwater: non-potable (Class II for FWBZ, Class III for SWBZ)
  - In EBS, overestimated cancer and non-cancer risks due to ingestion?
  - Elevated metal concentrations due to turbid HydroPunch groundwater samples?
  - Groundwater in contact with storm drains, potential ecorisk pathway?
- HydroPunch investigation located in 2 general areas of elevated VOCs.
  - Iterative approach starting in center of each area and moving out until plume is delineated
- Up to 10 shallow monitoring wells and 5 deep monitoring wells will be installed based on HydroPunch and soil gas data
  - analyze for VOCs, metals, PAHs, general chemistry

EBS Groundwater Data (exceeding MCLs)

Area 2

VOCs*
(VC, TCE,
1,1-DCE,
benzene)



Area 1

VOCs*
(benzene,
1,2-DCA, VC,
1,2,4-trimethylbeneze)

*EBS data exceeding MCLs

ALAMEDA POINT

Soil Gas Characterization

- Soil gas investigation in two major areas of concern for VOCs
  - identify potential source areas for VOCs
  - help characterize risk due to inhalation of VOCs
- Rectangular grid pattern in each area of VOC groundwater contamination

ALAMEDA POINT

Future Activities

Field Investigation : Soil, soil gas, groundwater

↓

Risks: Human health and ecological

↓

Remedial Investigation Report:
Characterize nature and extent of contamination

↓

Feasibility Study: Evaluate remedial alternatives

ALAMEDA POINT

Schedule of Activities

•Draft RI work plan	08/08/01
•Agency comments	10/08/01
•Final RI work plan	01/08/02
•Field sampling	02/15/02
•Draft RI report	02/15/03
•Final RI report	07/15/03
•Draft FS report	08/15/03
•Final FS report	01/15/04

TETRA TECH EM INC.

TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N68711-00-D-0005 Document Control No. TC . A021 . 10074

TO: Mr. Ron Fuller, Code 02R1.RF
Contracting Officer
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

DATE: 04/03/03
DO: 021
LOCATION:
Alameda Point, Alameda, California

FROM: _____
Michael Wanta, Contract Manager

DOCUMENT TITLE AND DATE:
Restoration Advisory Board Meeting Summaries for 2002, April 2, 2003

TYPE: ☐ Contractual Deliverable ☐ Technical Deliverable (DS) ☒ Other (TC)

VERSION: NA (e.g., Draft, Draft Final, Final) REVISION #: NA

ADMIN RECORD: Yes ☒ No ☐ CATEGORY: Confidential ☐

SCHEDULED DELIVERY DATE: NA ACTUAL DELIVERY DATE: 04/03/03

NUMBER OF COPIES SUBMITTED TO NAVY: O/3C/4E

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